Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1-33 (Cancel)

34. (New) A peptide immunogen of about 20 to 100 amino acids long comprising: (i) a helper T cell (Th) epitope selected from the group consisting of SEQ ID NOS: 3, 5, 6, 9, and 10; (ii) an N-terminal fragment of Aβ1-42 peptide, SEQ ID NO:1; consisting of from 10 to 28 amino acid residues wherein each fragment comprises amino acid residue 1 of the Aβ1-42 peptide or an immunologically functional analog of the N-terminal fragment of Aβ1-42 peptide; and (iii) optionally a spacer consisting of at least an amino acid to separate the immunogenic domains.

35. (New) A peptide immunogen of claim 34, further comprising a spacer consisting of at least an amino acid to separate the immunogenic domains.

36. (New) A peptide immunogen of claim 34, wherein the spacer is selected from the group consisting of an amino acid, and (α, ϵ-N-Lys).

37. (New) A peptide immunogen of claim 36, wherein the spacer is ϵ-N-Lys.

38. (New) A peptide immunogen of claim 34, wherein the N-terminal fragment of Aβ1-42 peptide is selected from the group consisting of the first 10 amino acids of SEQ ID NO: 2 the first 12 amino acids of SEQ ID NO: 2, and the first 28 amino acids of SEQ ID NO: 2 and the immunologically functional analog thereof.

39. (New) A peptide immunogen of any one of claims 35, 36, or 37, wherein the N-terminal fragment of Aβ1-42 peptide is selected from the group consisting of the first 10 amino acids of SEQ ID NO: 2 the first 12 amino acids of SEQ ID NO: 2, and the first 28 amino acids of SEQ ID NO: 2.

40. (New) A peptide immunogen of claim 34, wherein Th is selected from the group consisting of SEQ ID NOS: 3, 5, 6, 9, and 10.

41. (New) A peptide immunogen of any one of claims 35, 36, or 37, wherein Th is selected from the group consisting of SEQ ID NOS: 3, 5, 6, 9, and 10.

42. (New) The peptide immunogen represented by one of the following formulae:

$(A)_n$ - (N-terminal fragment of Aβ1-42 peptide)-$(B)_o$-$(Th)_m$-X; or

$(A)_n$-$(Th)_m$-$(B)_o$ -(N-terminal fragment of Aβ1-42 peptide)-X;

wherein

each A is independently an amino acid;

each B is a linking group selected from the group consisting of an amino acid, and α, ϵ-N-Lys;

Th comprise an amino acid sequence that constitutes a helper T cell epitope, selected from the group consisting of SEQ ID NOS: 3, 5, 6, 9, and 10 and an immune enhancing analog thereof;

(N-terminal fragment of Aβ1-42 peptide) is 10 to about 28 amino acid residues and wherein each fragment comprises EFRH of the Aβ1-42 peptide and immunologically functional analog thereof;

X is an α-COOH or α-$CONH_2$ of an amino acid;

n is from 0 to about 10;

m is from 1 to about 4;

and o is from 0 to about 10.

43. (New) A peptide immunogen of claim 42, wherein the spacer is ϵ-N-Lys.

44. (New) A peptide immunogen of claim 42, wherein the N-terminal fragment of Aβ1-42 peptide is selected from the group consisting of the first 10 amino acids of

SEQ ID NO: 2 the first 12 amino acids of SEQ ID NO: 2, and the first 28 amino acids of SEQ ID NO: 2 and the immunologically functional analog thereof.

45. (New) A peptide immunogen of claim 43, wherein the N-terminal fragment of Aβ1-42 peptide is selected from the group consisting of the first 10 amino acids of SEQ ID NO: 2 the first 12 amino acids of SEQ ID NO: 2, and the first 28 amino acids of SEQ ID NO: 2 and the immunologically functional analog thereof.

46. (New) A peptide immunogen of claim 42, wherein Th is selected from the group consisting of SEQ ID NOS: 3, 5, 6, 9, and 10.

47. (New) A peptide immunogen of claim 43 wherein Th is selected from the group consisting of SEQ ID NOS: 3, 5, 6, 9, and 10.

48. (New) A peptide immunogen of claim 44 wherein Th is selected from the group consisting of SEQ ID NOS: 3, 5, 6, 9, and 10.

49. (New) A peptide immunogen of claim 45 wherein Th is selected from the group consisting of SEQ ID NOS: 3, 5, 6, 9, and 10.

50. (New) A composition comprising a peptide immunogen of claim 1 and a pharmaceutically acceptable adjuvant and/or carrier selected from the group consisting of alum, saponin, squalene, monophosphoryl lipid A (MPL), polysorbate 80, QS21.

51. (New) A composition comprising a peptide immunogen of claim 35 and a pharmaceutically acceptable adjuvant and/or carrier selected from the group consisting of alum, saponin, squalene, monophosphoryl lipid A (MPL), polysorbate 80, QS21.

52. (New) A composition comprising a peptide immunogen of claim 36 and a pharmaceutically acceptable adjuvant and/or carrier selected from the group consisting of alum, saponin, squalene, monophosphoryl lipid A (MPL), polysorbate 80, QS21.

53. (New) A composition comprising a peptide immunogen of claim 4 and a pharmaceutically acceptable adjuvant and/or carrier selected from the group consisting of alum, saponin, squalene, monophosphoryl lipid A (MPL), polysorbate 80, QS21.

54. (New) A composition comprising a peptide immunogen of claim 38 and a pharmaceutically acceptable adjuvant and/or carrier selected from the group consisting of alum, saponin, squalene, monophosphoryl lipid A (MPL), polysorbate 80, QS21.

55. (New) A composition comprising a peptide immunogen of claim 39 and a pharmaceutically acceptable adjuvant and/or carrier selected from the group consisting of alum, saponin, squalene, monophosphoryl lipid A (MPL), polysorbate 80, QS21.

56. (New) A composition comprising a peptide immunogen of claim 40 and a pharmaceutically acceptable adjuvant and/or carrier selected from the group consisting of alum, saponin, squalene, monophosphoryl lipid A (MPL), polysorbate 80, QS21.

57. (New) A composition comprising a peptide immunogen of claim 41 and a pharmaceutically acceptable adjuvant and/or carrier selected from the group consisting of alum, saponin, squalene, monophosphoryl lipid A (MPL), polysorbate 80, QS21.

58. (New) A composition comprising a peptide immunogen of claim 42 and a pharmaceutically acceptable adjuvant and/or carrier selected from the group consisting of alum, saponin, squalene, monophosphoryl lipid A (MPL), polysorbate 80, QS21.

59. (New) A composition comprising a peptide immunogen of claim 43 and a pharmaceutically acceptable adjuvant and/or carrier selected from the group consisting of alum, saponin, squalene, monophosphoryl lipid A (MPL), polysorbate 80, QS21.

60. (New) A composition comprising a peptide immunogen of claim 44 and a pharmaceutically acceptable adjuvant and/or carrier selected from the group consisting of alum, saponin, squalene, monophosphoryl lipid A (MPL), polysorbate 80, QS21.

61. (New) A composition comprising a peptide immunogen of claim 45 and a pharmaceutically acceptable adjuvant and/or carrier selected from the group consisting of alum, saponin, squalene, monophosphoryl lipid A (MPL), polysorbate 80, QS21.

62. (New) A composition comprising a peptide immunogen of claim 46 and a pharmaceutically acceptable adjuvant and/or carrier selected from the group consisting of alum, saponin, squalene, monophosphoryl lipid A (MPL), polysorbate 80, QS21.

63. (New) A composition comprising a peptide immunogen of claim 47 and a pharmaceutically acceptable adjuvant and/or carrier selected from the group consisting of alum, saponin, squalene, monophosphoryl lipid A (MPL), polysorbate 80, QS21.

64. (New) A composition comprising a peptide immunogen of claim 48 and a pharmaceutically acceptable adjuvant and/or carrier selected from the group consisting of alum, saponin, squalene, monophosphoryl lipid A (MPL), polysorbate 80, QS21.

65. (New) A composition comprising a peptide immunogen of claim 49 and a pharmaceutically acceptable adjuvant and/or carrier selected from the group consisting of alum, saponin, squalene, monophosphoryl lipid A (MPL), polysorbate 80, QS21.

66. (New) A method of preventing or treating Alzheimer's disease by administrating to a mammal a composition of claim 50.

67. (New) A method of preventing or treating Alzheimer's disease by administrating to a mammal a composition of claim 52.

68. (New) A method of preventing or treating Alzheimer's disease by administrating to a mammal a composition of claim 53.

69. (New) A method of preventing or treating Alzheimer's disease by administrating to a mammal a composition of claim 54.

70. (New) A method of preventing or treating Alzheimer's disease by administrating to a mammal a composition of claim 55.

71. (New) A method of preventing or treating Alzheimer's disease by administrating to a mammal a composition of claim 56.

72. (New) A method of preventing or treating Alzheimer's disease by administrating to a mammal a composition of claim 57.

73. (New) A method of preventing or treating Alzheimer's disease by administrating to a mammal a composition of claim 58.

74. (New) A method of preventing Alzheimer's disease by administrating to a mammal a composition of claim 59.

75. (New) A method of preventing or treating Alzheimer's disease by administrating to a mammal a composition of claim 60.

76. (New) A method of preventing or treating Alzheimer's disease by administrating to a mammal a composition of claim 61.

77. (New) A method of preventing or treating Alzheimer's disease by administrating to a mammal a composition of claim 62.

78. (New) A method of preventing or treating Alzheimer's disease by administrating to a mammal a composition of claim 63.

79. (New) A method of preventing or treating Alzheimer's disease by administrating to a mammal a composition of claim 64.

80. (New) A method of preventing or treating Alzheimer's disease by administrating to a mammal a composition of claim 65.

81. (New) A method of producing antibodies to Aβ1-42 peptide that is cross reactive to soluble Aβ peptides and brain tissue plaques formed therefrom by administering a composition of claim 50.

82. (New) A method of producing antibodies to Aβ1-42 peptide that is cross reactive to soluble Aβ peptides and brain tissue plaques formed therefrom by administering a composition of claim 52.

83. (New) A method of producing antibodies to Aβ1-42 peptide that is cross reactive to soluble Aβ peptides and brain tissue plaques formed therefrom by administering a composition of claim 53.

84. (New) A method of producing antibodies to Aβ1-42 peptide that is cross reactive to soluble Aβ peptides and brain tissue plaques formed therefrom by administering a composition of claim 54.

85. (New) A method of producing antibodies to Aβ1-42 peptide that is cross reactive to soluble Aβ peptides and brain tissue plaques formed therefrom by administering a composition of claim 55.

86. (New) A method of producing antibodies to Aβ1-42 peptide that is cross reactive to soluble Aβ peptides and brain tissue plaques formed therefrom by administering a composition of claim 56.

87. (New) A method of producing antibodies to Aβ1-42 peptide that is cross reactive to soluble Aβ peptides and brain tissue plaques formed therefrom by administering a composition of claim 57.

88. (New) A method of producing antibodies to Aβ1-42 peptide that is cross reactive to soluble Aβ peptides and brain tissue plaques formed therefrom by administering a composition of claim 58.

89. (New) A method of producing antibodies to Aβ1-42 peptide that is cross reactive to soluble Aβ peptides and brain tissue plaques formed therefrom by administering a composition of claim 59.

90. (New) A method of producing antibodies to Aβ1-42 peptide that is cross reactive to soluble Aβ peptides and brain tissue plaques formed therefrom by administering a composition of claim 60.

91. (New) A method of producing antibodies to Aβ1-42 peptide that is cross reactive to soluble Aβ peptides and brain tissue plaques formed therefrom by administering a composition of claim 61.

92. (New) A method of producing antibodies to Aβ1-42 peptide that is cross reactive to soluble Aβ peptides and brain tissue plaques formed therefrom by administering a composition of claim 62.

93. (New) A method of producing antibodies to Aβ1-42 peptide that is cross reactive to soluble Aβ peptides and brain tissue plaques formed therefrom by administering a composition of claim 63.

94. (New) A method of producing antibodies to Aβ1-42 peptide that is cross reactive to soluble Aβ peptides and brain tissue plaques formed therefrom by administering a composition of claim 64.

95. (New) A method of producing antibodies to Aβ1-42 peptide that is cross reactive to soluble Aβ peptides and brain tissue plaques formed therefrom by administering a composition of claim 65.

96. (New) A composition comprising an Aβ fragment linked to a tetanus toxoid or toxoid derivative carrier molecule to form a conjugate, wherein the Aβ fragment is an N-terminal fragment selected from the group consisting of the first 10 amino acids of SEQ ID

NO: 2 the first 12 amino acids of SEQ ID NO: 2, and the first 28 amino acids of SEQ ID NO: 2 and the immunogenic analogs thereof.

97. (New) A composition comprising an Aβ fragment linked to an *E. coli* toxoid or toxoid derivative carrier molecule to form a conjugate, wherein the Aβ fragment is an N-terminal fragment selected from the group consisting of the first 10 amino acids of SEQ ID NO: 2 the first 12 amino acids of SEQ ID NO: 2, and the first 28 amino acids of SEQ ID NO: 2 and the immunogenic analogs thereof.

98. (New) A composition comprising an Aβ fragment linked to a diphtheria toxoid or toxoid derivative carrier molecule to form a conjugate, wherein the Aβ fragment is an N-terminal fragment selected from the group consisting of the first 10 amino acids of SEQ ID NO: 2 the first 12 amino acids of SEQ ID NO: 2, and the first 28 amino acids of SEQ ID NO: 2 and the immunogenic analogs thereof.

99. (New) A composition comprising an Aβ fragment linked to a T cell epitope molecule to form a conjugate, wherein the T cell epitope is malaria CS and the Aβ fragment is an N-terminal fragment selected from the group consisting of the first 10 amino acids of SEQ ID NO: 2 the first 12 amino acids of SEQ ID NO: 2, and the first 28 amino acids of SEQ ID NO: 2 and the immunogenic analogs thereof.

100. (New) A composition comprising an Aβ fragment linked to a T cell epitope molecule to form a conjugate, wherein the T cell epitope is hepatitis B surface antigen CS and the Aβ fragment is an N-terminal fragment selected from the group consisting of the first 10 amino acids of SEQ ID NO: 2 the first 12 amino acids of SEQ ID NO: 2, and the first 28 amino acids of SEQ ID NO: 2 and the immunogenic analogs thereof.